

Claims

1. (Currently Amended) A glass composition comprising about 0.5-30 wt% bismuth oxide, about 0.01-5 wt% zinc oxide, ~~and about 54-70 wt% silica oxide,~~ and less than about 5 wt% cobalt oxide.
2. (Original) The composition of claim 1, comprising about 1-2 wt% bismuth oxide.
3. (Original) The composition of claim 1, comprising about 9-15 wt% bismuth oxide.
4. (Original) The composition of claim 1, wherein the composition comprises less than about 0.1 wt% CoO, ZrO₂ or TiO₂.
5. (Currently Amended) The composition of claim 1, wherein the fraction (wt%) of bismuth oxide and zinc oxide in relation to silica ~~oxide~~ is about 0.059 to about 0.29.
6. (Original) The composition of claim 1, wherein the glass composition has a softening point of less than about 703°C.
7. (Currently Amended) A glass composition comprising about 1-15 wt% bismuth oxide, ~~and about 54-70 wt% silica oxide,~~ and less than about 25 wt% sodium oxide.
8. (Original) The composition of claim 7, wherein the composition comprises less than about 0.1 wt% CoO, ZrO₂ or TiO₂.
9. (Original) The composition of claim 7, comprising about 1-2 wt% bismuth oxide.
10. (Original) The composition of claim 7, comprising about 9-15 wt% bismuth oxide.

11. (Original) The composition of claim 7, further comprising

	Weight Percent (about)
Al ₂ O ₃	1 - 5 wt %
CaO	3 - 7 wt %
MgO	1 - 5 wt %
B ₂ O ₃	4 - 9 wt %
Na ₂ O	9 - 20 wt %

12. (Original) The composition of claim 11, wherein the glass composition has a softening point of less than about 703°C.

13. (Currently Amended) A substantially non-crystalline glass fiber comprising about .5-30 wt% bismuth oxide and about 54-70 wt% silica oxide, and equal to or less than about 20 wt% sodium oxide.

14. (Original) The glass fiber of claim 13, comprising about 1-15 wt% bismuth oxide.

15. (Original) The glass fiber of claim 14, further comprising about 0.1 to about 5 wt% zinc oxide.

16. (Original) The glass fiber of claim 13, further comprising

	Weight Percent (about)
Al ₂ O ₃	1 - 5 wt %
CaO	3 - 7 wt %
MgO	1 - 5 wt %
B ₂ O ₃	4 - 9 wt %
Na ₂ O	9 - 20 wt %
K ₂ O	0.0001 - 3 wt %
NiO	0.0001 - 2 wt %
BaO	0.0001 - 5 wt %
Ag ₂ O	0.0001 - 1 wt %
F ₂	0.0001 - 1 wt %

17. (Currently Amended) The glass fiber of claim 13, wherein the fraction (wt %) of bismuth oxide and zinc oxide in relation to silica ~~oxide~~ is about 0.059 to about 0.29.

18. (Original) The glass fiber of claim 13, having a density of about 2.5 to about 2.85.
19. (Original) The glass fiber of claim 13, wherein the elemental leach rate of the glass fiber is about 2.6-4.5 (wt%) over about 3 hours in a solution of boiling H₂SO₄ acid having a specific gravity of about 1.265.
20. (Original) The glass fiber of claim 13, wherein the elemental leach rate of the glass fiber is about 10.27 to about 16.34 (wt%) over about 3 hours in a 125°F solution of 30% KOH.
21. (Original) The glass fiber of claim 13, having a Kdis of less than about 150 ng/cm²h.
22. (Withdrawn) A battery separator comprising glass fibers, wherein the glass fibers comprise about 0.5-30 wt% bismuth oxide and about 54-70 wt% silica oxide.
23. (Withdrawn) The battery separator of claim 22, wherein the glass fibers further comprise about 0.1 to about 5 wt% zinc oxide.
24. (Withdrawn) A method of inhibiting hydrogen off-gassing in a lead-acid battery comprising inserting a battery separator comprising glass fibers comprising about 0.5-30 wt% bismuth oxide and about 54-70 wt% silica oxide between the electrode plates of the battery.
25. (New) A glass composition comprising about 1-15 wt% bismuth oxide, about 54-70 wt% silica, and less than about 20 wt% sodium oxide.
26. (New) A glass composition comprising about 0.5-30 wt% bismuth oxide, about 0.01-5 wt% zinc oxide, about 54-70 wt% silica, and about 9 - 20 wt % sodium oxide.
27. (New) A glass composition comprising about 1-15 wt% bismuth oxide, about 54-70 wt% silica, and less than about 25 wt% sodium oxide, the composition being less than about 1 wt% in the crystalline phase.

28. (New) A substantially non-crystalline structured glass composition comprising about 1-15 wt% bismuth oxide, about 54-70 wt% silica, greater than about 0.01 wt% zinc oxide.

29. (New) A glass composition comprising about 0.5-30 wt% bismuth oxide, about 0.01-5 wt% zinc oxide, about 54-70 wt% silica, and a weight percent ratio of cobalt oxide to bismuth oxide of less than about 10.

30. (New) The glass composition of claim 1, having less than about 0.1 wt% cobalt oxide.

31. (New) The glass composition of claim 1, having less than about 1 wt% cobalt oxide.

32. (New) The glass composition of claim 1, a weight percent ratio of cobalt oxide to bismuth oxide of less than about 1.

33. (New) A glass composition comprising about 1-15 wt% bismuth oxide, about 54-70 wt% silica, less than about 25 wt% sodium oxide, and a weight percent ratio of cobalt oxide to bismuth oxide of less than about 10.

34. (New) A glass fiber comprising about .5-30 wt% bismuth oxide and about 54-70 wt% silica, and from about 3-7 wt% calcium oxide.

35. (New) A glass fiber comprising about .5-30 wt% bismuth oxide and about 54-70 wt% silica, and a CaO to MgO weight percent ratio of about 3:2.

36. (New) A glass fiber comprising about .5-30 wt% bismuth oxide and about 54-70 wt% silica, and about 1-5 wt% alumina.